

The Global Alliance against Respiratory Diseases (GARD) Interim Report 2016

Arzu Yorgancioglu, Moises A. Calderon, Alvaro Cruz , Jose Rosado Pinto, Jean Bousquet, Nikolai Khaltsev

ABSTRACT

The Global Alliance against Respiratory Diseases (GARD) is a network established in 2005 by the World Health Organization (WHO). GARD aims to raise the recognition of the importance of chronic respiratory diseases (CRDs) as one of the most important health problems globally.

GARD member countries develop activities against CRDs according to the needs of their own country.

The first GARD country report has been published in 2013 (1). The aim of the current report is to provide an update and evaluation of the ongoing activities in GARD's country members.

INTRODUCTION

The Global Alliance against Respiratory Diseases (GARD) is a network led by the World Health Organization (WHO), comprising national and international organizations, institutions and agencies working towards the common goal of global improving of lung health (1,2,3,4).

The aim of GARD is to raise the recognition of the importance of chronic respiratory diseases (CRDs) as one of the most important health problems globally. GARD aims to establish cooperation in the field of CRDs between initiatives within countries and activities developed by GARD member organizations (2,3,4).

GARD member countries develop activities against CRDs, which are conducted by their governments and supported by GARD when requested by the national health authorities. Each country's plan is developed by the Ministry of Health (MoH) in accordance with policies, rules and regulations of the specific country, and managed by the governments (2,3,4)

GARD's greatest achievement is its ability to forge collaborative partnerships and develop a shared vision with a large number of parties including professional medical societies, patient's organisations, medical and pharmaceutical companies, NGOs, Governments(5,6,7,8,9)

INTERIM REPORT

This interim report has been prepared from data provided by twelve country coordinators. A template provided by WHO was used to update national activities under WHO-GARD programme for the period 2014-2015.

The WHO-GARD template includes 6 domains, these are:

- 1. NATIONAL COORDINATION**
- 2. NATIONAL POLICIES AND PLANS FOR CRDs**
- 3. ACTIVITIES FOR PREVENTION OF CRDs**
- 4. ACTIVITIES FOR MANAGEMENT OF CRDs**
- 5. SURVEILLANCE AND MONITORING OF CRDs**
- 6. COMMENTS AND SUGGESTIONS**

Country reports were completed by: Paulo Camargos (Brazil), Arvid Nyberg (Finland), Mariam Maglakelidze and Tamaz Maglakelidze (Georgia), Giovanna Laurendi (Italy), Hironori Sagara (Japan), Talant Sooronbaev (Kyrgyzstan), NH Chavannes (The Netherlands), José Rosado Pinto (Portugal), Florin Mihaltan, Ruxandra Ulmeanu, Diana Deleanu (Romania), Yousser Mohammad (Syrian Arab Republic), Arzu Yorgancioglu, Bilun Gemicioglu (Turkey), Lan Le Thi Tuyet (Vietnam), J Kiley, R Tracey (M Ndenecho(US NAEPP, NHLBI/NIH)

1. NATIONAL COORDINATION

There are currently 32 active country coordinators and member countries working in the WHO-GARD programme (Table 1). During the last decade, the GARD initiative has been introduced in different low/ middle- and high-income countries. The development of different projects represents the intensive and hard work of an heterogenous group of colleagues from different disciplines in medicine in various countries around the globe.

Specific GARD-CRD country projects have been proposed in Argentina, Brazil, Cape Verde, China, Czech Republic, Egypt, Islamic Republic of Iran, Italy, Kyrgyzstan, Mozambique, Netherlands, Pakistan, Poland, Portugal, Romania, South Africa, Syrian Arab Republic, Turkey and Vietnam.

Most of the GARD countries have a focal point within their corresponding MoH and a GARD country coordinator.

GARD partners in each country include different scientific, academic and non-academic organizations, details are summarised in Table 2.

The GARD Executive' and Planning' Committees are committed to support and facilitate local and regional activities proposed by their coordinator. Our aim is to support each GARD country coordinator to have an active and more integrated participation in the design and execution of each CRD project. Continuous surveillance and monitoring of CRDs is highly promoted by GARD.

The main aim of GARD ambassadors is to persuade health authorities, at all levels, to include stakeholders in each country to promote the public awareness on CRDs and to support the proposals of the WHO. The identification of enthusiastic leaders and the willingness of the MoH of the country along with the support of WHO also are key points.

Table 1. GARD Country coordinators or initiators

COUNTRY	COORDINATOR/ INITIATOR
1. Algeria	Habib Douagui
2. Argentina	Carlos Baena- Cagnani [∞]
3. Central American Countries	Jorge Quel
4. Bangladesh	Kazi Bennoor
5. Brazil	Paolo Camargos
6. Canada	Louis-Philippe Boullet
7. Cape Verde	Maria do Ceu Teixeira
8. Czech Republic	Vitezslav Kolek
9. China	Bai Chunxue & Nanshan Zhong
10. Egypt	Mohamed Awad Tageldin
11. Finland	Tari Haahtela
12. France	Jean Bousquet
13. Georgia	Tamaz Maglakelidze
14. Iran	Mohammad Reza Masjedi
15. Japan and the Western Pacific Countries	Sagara Hironori & Makino Sohei
16. Kazakhstan	Abay Baigenzhin
17. Korea	You Young Kim
18. Kyrgyzstan	Talant Sooronbaev
19. Lithuania	Arunas Valiulis
20. Mexico	Sandra N. Gonzales Dias
21. Netherlands	Niels H. Chavannes
22. Pakistan	Osman Yusuf
23. Paraguay	Juan Carlos Sisul Alvariz
24. Poland	B Samolinski & P Kuna
25. Portugal	Jose Rosado Pinto
26. Romania	Florin Mihaltan & Diana Deleanu
27. Russia	Alexander Chuchalin
28. South Africa	Eric Bateman
29. Syria	Yousser Mohammad
30. Tunisia	Ali Ben Kheder
31. Turkey	Arzu Yorgancioglu & Bilun Gemicioğlu
32. Uganda	Michael Rutgers
33. Vietnam	Lan Le Thi Tuyet

[∞] **Professor Dr Carlos Baena- Cagnani.** Prof Baena-Cagnani was one of the pioneers and founders of GARD. Sadly, he passed away suddenly celebrating the beginning of 2015 with his children and grandchildren at his home in Cordoba, Argentina. Carlos had passion for medicine, research, teaching and politics. He worked with major leaders in our field such as Gunnar Johansson, Jean Bousquet and Walter Canonica. He was highly regarded for his academic aptitude, passion and

energy, as well as his collegial skills and friendliness. Carlos left an indelible imprint transforming and modernizing the Scientific Societies which he chaired including the Argentinean Association of Allergy and Clinical Immunology, the Latin American Society of Allergy Asthma and Immunology, the World Allergy Organization (WAO), and the Global Partnership In Asthma (Interasma). He believes in GARD as the programme and the ideal network, led by the WHO, which will bring together the effort of national and international organizations, institutions and agencies to improve global health on CRDs.

Table 2: GARD partners per country

COUNTRIES	How many organizations of your country have joined GARD?
Brazil	1
Czech Republic	20
China	2
Egypt	7
Iran	13
Italy	42
Krygyzstan	12
Netherlands	2
Pakistan	1
Poland	3
Portugal	18
Romania	3
South Africa	1
Turkey	64
Vietnam	2

Table 3: Domain 1: National Coordination

GARD National Coordinator	12
GARD Initiator	12
Since (date of initiation)	2006 - 2012
Contact details including email	12 provided
Ministry of Health Focal Point for GARD (if different from above)	8 yes 4 no
Year of starting GARD in country	2006-2012
GARD members – indicate organizations represented	1-64
What is resource mobilization plan for GARD? Indicate sources	6 MoH 3 NGOs 1 both 1 pharma 1 none
What are the functions of GARD?	5 National Control plan for CRD (The Netherlands, Portugal, Italy, Turkey, Krygzstan) 6 specific programs 1 both
Is there an action plan for GARD	6 yes 5 not yet 1 planning
How are GARD activities monitored and reported?	6 within the program 4 with NGOs 2 no monitoring

Most of the countries have Ministry focal points. Dates of initiations were between 2006-2012. Partners are in between 1-64. Resource mobilization is mainly by MoH. There are 5 national control plans and 6 specific programs. 6 countries monitor the activities within the program.

GARD Brazil: GARD programme started in Brazil in October 2006. The current GARD National Coordinator is Dr Paolo Camargos (pauloamcamargos@gmail.com). The Brazillian Association of Allergy and Immunology is supporting GARD. Currently, there is not a resource mobilization plan for GARD. GARD provides technical assistance for existing Municipal and State programmes on CRDs; stimulating and advocating initiatives related to the control of CRDs. There is a proposed plan of action for GARD but no formal activities are implemented; technical assistance and advocacy are on an informal level.

GARD Finland. GARD programme started in Finland in 2009, initiated by Markku Nieminen, Filha (Finnish Lung Health Association). The current GARD National Coordinator is Dr Arvid Nyberg (arvid.nybergi@filha.fi). Filha (Finnish Lung Health Association) is represented at GARD, providing resource mobilization plans. GARD represents a “source of information and inspiration”. There are not specific action plans for GARD, although there are a lot of activities in the country related to CRDs.

GARD Georgia. GARD programme was initiated in 2006 in Georgia by Dr Tamaz Maglakelidze, who is the current National Coordinator. There is no MoH Focal Point for GARD. The Georgian Respiratory Association is a GARD member. The resource mobilization plan for GARD involves the private sector and Pharma Companies. Epidemiological surveys, educational activities among patients and PHC workers are considered GARD functions. There is an action plan for GARD called “GARD GEORGIA NATIONAL ACTION PLAN - 2011-2015”. Regional coordinators provide information to GARD headquarters in Tbilisi.

GARD-Italy Gard Italy was set up in June 2009, the Ministry of Health is assigned the roles of technical leadership and secretariat of GARD Italy, with 38 scientific societies and associations as founding members. The mission and intent of GARD Italy are indicated in a strategy paper prepared by the Ministry of Health in collaboration with the scientific societies and patient associations in the area of respiratory diseases. GARD Italy has set up its own rules of procedures, and is divided into a General Assembly and an Executive Committee and also operates through working groups. During these years working groups have produced several documents on chronic respiratory diseases’ prevention and care in order to improve a develop and comprehensive strategy of prevention and care of respiratory disease adapted to the Italian context.

GARD Japan. GARD programme was initiated in Japan by Dr Hironori Sagara since GARD’s first meeting. Dr Sagara is still the GARD National Coordinator. The MoH Focal Point for GARD is the WHO Collaborating Center. The WHO and the Japanese Society of Allergy represent the resource mobilization plan for GARD. GARD functions are mainly research, publication and education. The action plan for GARD means “planning”. GARD activities are reported to WPRO (investigations in Mongolia, Cambodia and Laos).

GARD Kyrgyzstan. Prof. Talant Sooronbaev was the initiator of GARD in Kyrgyzstan in 2007 and is the current GARD National Coordinator (sooronbaev@yahoo.com). GARD members are the National Center of Cardiology and Internal Medicine, the Kyrgyz Thoracic Society, the National Center Pediatric Surgery and Pediatrics, the Kyrgyz State Medical Academy, the Pulmonary Patients Club, the Kyrgyz Cardiologic Society, the KR Academy of Sciences, the Generalist Group Association, PAL in Kyrgyzstan, the Kyrgyz-Finnish Lung Health Project 2007-2009, the National Hospital and the Republican Allergy Center. Various sources for mobilizing resources such as medical associations, Kyrgyz Thoracic Society, foundations, pharmaceutical companies and others are used. Functions of GARD include the coordination of all activities to strengthen and improve lung health in Kyrgyzstan. There is an action plan for GARD and their activities are monitored and reported to the MoH and at the annual National Respiratory Congress.

GARD Netherlands. GARD programme was initiated in The Netherlands on January 1st 2012, by Dr Niels H Chavannes, Advisor of Lung Alliance Netherlands (LAN). Dr Chavannes is the current GARD National Coordinator (n.h.chavannes@lumc.nl). Dr A. Mosterdijk is the MoH Focal Point for GARD. Since 2014, GARD started activities in The Netherlands. The Dutch Lung Fund and IPCRG are GARD members. The MoH Netherlands and Healthcare Insurers Fund Netherlands represent the resource

mobilization plan for GARD. Functions of GARD includes implementing the National Action Programme against Chronic Respiratory Diseases.

GARD Pakistan. GARD was initiated in Pakistan on May 5th 2009 by Dr Osman Yusuf (allergypk@gmail.com), who is the current GARD National Coordinator. There is no MoH Focal Point for GARD at present. GARD members are: the Former Ministry of Health, the Former Ministry of Environment, the Chief Commissioner, Islamabad Capital, the Pakistan Chest Society (Federal) and the Allergy & Asthma Institute, Pakistan. As the Ministries were devolved 2 years ago and revival of GARD at Governmental level is under-way. As part of the mobilization plan for GARD, individual activities are planned according to sponsorship and resources available. The functions of GARD are: i) Promoting awareness of CRDs at all levels, ii) Planning Health promotional activities, medical camps etc. and, iii) Creating a platform for collaboration between relevant stakeholders. There is not a formal action plan for GARD; however, individual activities are tagged under the GARD umbrella. GARD activities or outcomes are measured and reported to the GARD Secretariat in Annual Report.

GARD Portugal. GARD programme in Portugal started in 2007. Dr José Rosado Pinto has been GARD National Coordinator since the beginning. GARD Portugal and its members integrated the Portuguese National Programme for Respiratory Diseases (PNPRD) in 2012, under the responsibility of the MoH – Portuguese Directorate General of Health. GARD Portugal is the Strategic Reference of PNPRD and has an active participation and responsibility for the international dissemination of the Programme. In Portugal there isn't a specific action plan for GARD since 2012. GARD activity reports are published every year integrated in the PNPRD reports. During the 10th General WHO-GARD General Assembly meeting in Lisbon in 2015, a lecture was presented by the PNPRD Director about "GARD Portugal and the PNPRD".

GARD Romania. GARD programme was initiated in Romania in 2008 by Dr Florin Mihaltan. GARD National Coordinators are Dr Florin Mihaltan (mihaltan@starnets.ro), Dr Ruxandra Ulmeanu (r_ulmeanu@yahoo.com) and Dr Diana Deleanu (deleanudianaa@yahoo.com). Dr Nicolae Banicioiu is the MoH Focal Point for GARD. The Romanian Society of Pneumology and the Romanian Society of Allergology are GARD members. The Romanian Society of Pneumology budget sponsored by Pharmaceutical companies represents the resource mobilization plan for GARD. The functions of GARD include: i) monitoring developments of chronic respiratory disease at the country level, ii) initiatives for improving diagnosis of lung cancer in Romanian centers and, iii) obtaining funding for national programs. There are no specific action plans for GARD. GARD activities are monitored and reported at every GARD meeting.

GARD Syria. GARD programme in the Syrian Arab Republic was initiated in 2008 by Dr Yousser Mohammad (ccollaborating@gmail.com) who is the current GARD National Coordinator. A committee in the MoH is the Focal Point for GARD, the contact is now Dr. Bassam Abou Dahab. The Tishreen University is a GARD member. The resource mobilization plan for GARD is project by project, officially from: Tishreen University and WHO country office, Syria private University, MoH is facilitating for experts and meetings. Functions of GARD include research on CRDs, meetings, patients education through patient organizations and issuing guidelines. There is not an action plan for GARD. GARD activities are monitored and reported officially by institutions.

GARD Turkey. GARD Turkey was initiated by the Turkish Thoracic Society in 2005. The programme started in 2008. The current GARD National Coordinator is Dr Arzu Yorgancioglu (arzuyo@hotmail.com) and Bilun Gemicioğlu (bilung@gmail.com) . The MoH Focal Point for GARD is Banu Ekici (drbanutek@yahoo.com). GARD Turkey collaborating parties include 60 members (complete list at <http://gard.org.tr/gard-turkey-collaborating-parties.html>). The resource mobilization plan for GARD includes the MoH, the Turkish Thoracic Society and the Turkish Society of Allergy and Immunology. GARD Turkey Project is on asthma and COPD as a chronic respiratory diseases. This project has three main purposes: i) to avoid the development of chronic airway diseases, ii) to reduce the mortality and the morbidity and iii) to reduce the burden of diseases. There is an action plan for GARD. GARD activities are monitored and reported by the GARD Executive Committee Working Group 1 and the Ministry of Health Secretaria.

GARD Vietnam. GARD Vietnam started in 2002 and was initiated in 2008. The current national coordinator is Dr Lan Le Thi Tuyet (tuyetlanyds@gmail.com). There is a national programme for Asthma and COPD with individual sponsors from pharmaceutical companies. The functions of GARD are focused on treatment, advocacy, research and teaching. There is an action plan for GARD. GARD activities are monitored and reported annually.

2- NATIONAL POLICIES AND PLANS FOR CRDs

Table 4: Domain 2: National policies and plans for CRDs

Is there a national plan for CRDs?	8 yes 3 no 1 fragmented
If no, is CRD part of the national NCD plan date the plan and responsible officer/unit	Most of the countries have national plan for CRD 4 of them have indicators In 1 out of 3 countries without a national plan , CRD is a part of NCD plans
What are the activities for preventing COPD and Asthma in national Plans?	<ul style="list-style-type: none"> • Asthma, allergy and COPD surveillance, awareness, advocacy, prevention, diagnosis and management plans • Anti-smoking campaigns • tobacco control programs • Educational activities for both physicians and public • Access to medicine efforts • Screening activities
Are there any indicators of CRD in other national plans?	4 yes 8 no

GARD Brazil. As part of the national plan for CRDs there are some fragmented governmental/country-level actions (e.g., tobacco control, access to essential

medicines). CRDs are not yet part of the National NCD Plan. However, there is a National NCD Coordination/plan at the MoH level, without specific activities for CRDs. Asthma and COPD management programs exist, but at some Municipal and State level. There are no indicators of CRDs in other national plans.

GARD Finland. There is not a national plan for CRDs. But, CRDs are part of the National NCD plan, Dr Tuula Vasankari is the person responsible for this programme. Some of the activities for preventing COPD and Asthma in national plans include the National Allergy Program 2008-2018 and the COPD program which continues locally. There are no indicators of CRDs in other national plans.

GARD Georgia. There is a national plan for CRDs which is elaborated but not endorsed, is being discussed in MoLHSA, and will be endorsed this year. Dr Lela Sutura, Head of Department of Non-Communicable Disease, NCDC, is the person responsible for this plan. Activities are envisaged for the period 2015-2020. Activities for preventing COPD and Asthma in national plans are included in the “CRD Prevention and Control Action Plan (Activity 4)”, these include: to improve financial accessibility on CRDs (Bronchial Asthma, COPD, Allergic rhinitis, occupational lung diseases, syndrome of sleep apnoe, lung related hypertension, etc.), risk assessment and management of medical services and its pharmacological treatment. There are no direct mentioning or indicators about CRDs in other national plans.

Gard Italy. In Italy we have elaborated and adopted several actions promoting healthy lifestyles, based on intersectoral and horizontal approaches. As unhealthy behaviors often start during childhood and adolescence, we have involved schools and the entire educational sector, a setting which is particularly appropriate to promote health among the youth.

The National Prevention Plan 2014-2018, through intersectoral interventions addressing health determinants within a life course and setting approach, aims at involving subnational authorities in promoting protective factors (life skills, empowerment, literacy) with the objective of enhancing healthy lifestyles in young and adult population.

GARD Japan. “Asthma Death Zero” by MOHLW, Japan, is the national plan for CRDs in Japan. Activities for preventing COPD and asthma include the no-smoking law FITC (MOHLW, Japan).

GARD Kyrgyzstan. A new national plan for the prevention and control of respiratory diseases and allergies for 2015-2020 has been developed. The plan has been discussed in the MoH, its implementation will start in the near future. Responsible officer from MoH is Prof Talant Sooronbaev, and the Department of Respiratory, Critical Care and Sleep Medicine of NCCIM. CRDs are also part of the National NCD programme which started in 2013. Main activities for preventing COPD and Asthma in national plans are tobacco control and indoor air pollution.

GARD Netherlands. A national plan for CRDs started in January 2014 by the Lung Alliance Netherlands. The activities for preventing COPD and Asthma in national plans are:

- 25% reduction of exacerbation hospitalisation days for asthma and COPD

- 15% reduction of lost working days due to asthma and COPD
- 20% improved cost effectiveness of inhalation medication
- 25% reduction of adolescents taking up smoking
- 10% reduction of mortality due to asthma and COPD

Smoking rates are included as indicators of CRDs in other national plans.

GARD Pakistan. The national plan for CRDs, the activities for preventing COPD and Asthma (to be included in the national plan) and the indicators of CRDs need to be established.

GARD Portugal. A national plan for CRDs (Asthma; COPD; Sleep Apnea Syndrome; Pulmonary Hypertension; Interstitial Lung Diseases and Cystic Fibrosis) is included in the PNPRD (2012-2016). In what concerns prevention, treatment and costs of COPD and Asthma national plans have been designed. All activities, documents, guidelines and actions are conducted through the Regional Health Administrations, National Scientific Societies and Patient Associations and are integrated in the PNPRD. The PNPRD is strongly articulated with other National health programmes and is one of the conceptual frameworks for the production of the Portuguese legislation regarding CRD

GARD Romania. There is not a national plan for CRDs. CRDs are not part of the National NCD plan. Activities for preventing COPD and Asthma in national plans include screening activities on asthma/COPD days. There are not any indicators of CRDs in other national plans.

GARD Syria. There is not a national plan for CRDs, but the MoH and WHO have a CME program for Doctors and nurses covering all NCD including Respiratory Diseases. Activities for preventing COPD and Asthma in national plans are organised individually (activity by activity) such as the Tobacco Control Program, FCTC, and meetings during World Asthma and COPD days.

GARD Turkey. There is a national plan for CRDs. The first National Program was launched in 2008, during the 3th General Meeting of GARD in Istanbul. In December 2013 new action plans were approved. The responsible officer/unit is the MoH.

Activities for preventing COPD and Asthma in the national plan include:

- A surveillance study: which has been completed by MoH regarding all non-communicable diseases and common risk factors.
- Two studies were conducted regarding the awareness of Asthma and COPD among public and health care professionals.
<http://www.tuberktoraks.org/linkout.aspx?pmid=24298958>
- Standard educational materials were prepared for patients and for public as well as the materials for awareness and advocacy of GARD Turkey Project and diseases. These standard materials are now being used throughout the country.
- A curriculum and educational materials of trainers were prepared for primary care settings and about asthma, COPD, Home care and Pulmonary rehabilitation, Tobacco control.
 - 400 trainers (Pulmonologists) have been trained.
 - 17,000 out of 20 000 Primary care physicians (PCP) have been educated face to face by these trainers using the same structured materials .

- On-line educational modules have been prepared, that have been a must to be taken for PCP.
- Website for patients organised by Turkish Thoracic Society.
- GARD Projects prepared by GARD working groups and sponsored by Industries:
 - Creating public awareness on COPD;
 - public service announcements were prepared
 - Patient education on COPD movie was prepared
 - Primary and secondary education on GARD, COPD and Spirometry movies were prepared.

A report was prepared and published named “Evaluation of indoor and outdoor pollution and climate change”. Pulmonary rehabilitation and home care symposia were organized in December 2013 in Ankara and a report was prepared. There are indicators of CRDs in other national plans.

GARD Vietnam. There is a national plan for CRDs since 2010, the responsible is Bạch Mai Hospital – Vũ Quốc Anh. Activities for preventing COPD and Asthma in national plans include:

- Tobacco control
- Training doctors and nurses for Asthma and COPD management
- Writing national guidelines for Asthma and COPD
- To provide spirometers.

3- ACTIVITIES FOR PREVENTION OF CRDs

Table 5: Domain 3: Activities for Prevention of CRDs

What are the activities conducted by GARD for CRD prevention?	8 Control plan
How are the activities sustained?	Plans with MoH are the ones sustained
What are the priorities for CRD prevention?	<ul style="list-style-type: none"> • Primary secondary and tertiary prevention • Awareness • Access to medicines
What are the requirements for CRD prevention?	<ul style="list-style-type: none"> • Awareness • Education • Diagnosis • Treatment
How can CRD prevention be monitored?	National databases
Patients ever received smoking cessation advice (Yes/no)	12 yes
Are there actions against indoor combustion of solid fuel (yes/or)	6 yes 6 no

There are 8 national control plans. Plans with MoH are the ones that sustained All of them received smoking cessation . Half of them have actions against indoor pollution .

GARD Brazil. There are no formal activities implemented by GARD for CRD prevention; technical assistance and advocacy is still on an informal level. Priorities for CRD prevention are technical assistance and advocacy for Municipal and State Health Authorities addressed mainly to the management of programmes for asthma and COPD. There are no guidelines implemented by the MoH for requirements for CRD prevention. Patients have received smoking cessation advice. There are no actions against indoor combustion of solid fuel.

GARD Finland. There are no activities conducted by GARD for CRD prevention. The priorities for CRD prevention are high, these include active government supported nation-wide antismoking activities. Financial resources and continuous education, good national programmes are requirements for CRD prevention. CRD prevention can be monitored by General statistics, National Institute for Health and Welfare. Patients had received smoking cessation advice. There are no actions against indoor combustion of solid fuel.

GARD Georgia. Educational activities (capacity building of health professionals, advocacy and awareness raising activities) and surveys are activities conducted by GARD for CRD prevention. These activities are sustained by GRA's budget.

The priorities for CRD prevention include:

- Achievements in tobacco control: Multi-sectoral State Committee for Strengthening Tobacco Control Measures in Georgia (Decree of Gov. Georgia #58- March 15,2013); 10 Ministers; Chair – Prime Minister of Georgia; Deputy Chair – Minister of Labor, Health and Social Affairs, NCDC & PH – Secretariat Functions. National tobacco control strategy and action plan approved, tobacco control state program to be launched shortly, amendments to laws sent to parliament for approval.
- Universal Healthcare Program: Part of the services (ambulatory and in patient) provided under UHC Program.
- To develop and improve CRD Surveillance System.
- To build supportive environment for behavioral risk-factors.
- To increase community awareness and educational level in health issues.
- To detect the weak points in PHC.
- To integrate CRDs in Continuous Medical Education (CME) system.
- Surveillance of the use of modern clinical guidelines among medical professionals.
- Lack of finances for conducting researches in the field of CRDs.

There are no mandatory requirements for CRD prevention. It is planned that in the near future a PHC mechanism will be introduced for prevention of CRDs. NCDC is holding consultations with WHO on this regard. Trainings for PHC professionals and respiratory specialists are held by GRA. NCDC on its end is holding trainings of PHC professionals within the frames of State Health Promotion Program, and is also training PHC professionals on Tobacco Cessation issues. CRD prevention is monitored through better data collection. Patients received smoking cessation advice. Actions against indoor combustion of solid fuel include "FRESH AIR: Free Respiratory Evaluation and Smoke-exposure reduction by primary Health Care Integrated Groups", planned to be conducted by GRA in 2016.

GARD-Italy.The need to improve the protection of the health of non-smokers, especially children, led to the introduction in 2012 of the ban on the sale of cigarettes to anyone under 18 years old, raising the previous limit of 16 years and in 2013 the extension of the smoking ban to outdoor areas of schools.

In recent years we have strengthened actions aimed at promoting healthy lifestyles, developing an "intersectoral" strategies for health promotion and prevention. The tobacco control is one of the areas of the program "Gaining Health: making healthy choices easier", the national strategy that, following the approach of "Health in all policies", acts on the main risk factors (smoking, harmful use of alcohol, improper diet and lack of physical activity) for the prevention of chronic non-communicable diseases. The National Prevention Plan 2014-2018 aims to reduce the prevalence of smoking by 10% by 2018 through intersectoral health promotion interventions on the entire life cycle (life course) and different settings (schools, workplaces, community local health service).

GARD Japan. GARD Japan is committed to provide information for CRD prevention to the three countries in South-Eastern Asia. An "airing guideline" is proposed as a priority for CRD prevention. There are statistics in MOHLW-Japan, to monitor CRD prevention. Patients received smoking cessation advice. Actions against indoor combustion of solid fuel are not indicated.

GARD Kyrgyzstan. Activities conducted by GARD for CRD prevention are under the National Programme for Prevention and Control of NCDs, mainly at the population level. Priorities for CRD prevention include raising awareness of the population about risk factors for CRDs. Specific indicators for monitoring CRD prevention have been developed. Patients received smoking cessation advice. There are actions against indoor combustion of solid fuel.

GARD Netherlands. The Lung Alliance Netherlands is the delivery body of the National Action Programme on CRDs. National funding is available for five years to conduct the programme. The priorities for CRD prevention of asthma and COPD are listed above. Requirements for CRD prevention include awareness and education in diagnosis and treatment. Several national databases are being integrated to monitor CRD prevention. Patients have received smoking cessation advice which was implemented through the national primary care guideline since 2007.

GARD Pakistan. Activities for CRD prevention need to be established. Patients received smoking cessation advice. Actions against indoor combustion of solid fuel are underway now.

GARD Portugal. Activities conducted by GARD for CRD prevention included collaboration in the different official documents and dissemination at national and international levels. Activities are sustained by the MoH – Portuguese Directorate General of Health - Director Dr. Francisco George. Priorities for CRD prevention include the preparation of documents in collaboration with the NHS Regional Departments, Respiratory Diseases Department of PHC Association, CRD Patient Associations, other National Programmes and the Ministry of Education. For CRD

prevention is required the involvement of the stakeholders in the 6 priority CRD Diseases and collaboration with the Scientific Societies, Academic Research Groups and Patient Associations. CRD data are presented in the annual reports of the PNPRD: “Portugal Respiratory Diseases in numbers” and “ Indicators of Respiratory Diseases. In what concerns collaboration with other health programmes patients receive smoking cessation advice and schools receive information on healthy behaviour. Actions against indoor combustion of solid fuel include the collaboration with research and academic groups regarding the indoor and outdoor environment studies.

GARD Romania. Activities conducted by GARD for CRD prevention are:

- Meetings with family physicians in conferences, symposiums.
- Activities of tobacco control with Ministry of Health and Chamber of Deputies.
- Meetings to combat air pollution and organised common activities with NGOs.
- Activities organised by Romanian Society of Pneumology for tobacco control, education in schools, e-learning programs, training physicians, journalists.
- Activities organised by Romanian Society of Pneumology for improving diagnosis and management of lung cancer:
 - Bronchology Section of Romanian Society of Pneumology - founded October 25, 2002
 - National Bronchology Conferences - organised every two years since 2003
 - Bronchoscopy Workshops for beginner and advanced practitioners - organised every two years since 2006
 - Working Group for Lung Cancer of Romanian Society of Pneumology - founded November 28, 2009 (co-founding member: Lung Cancer Section of Romanian Society of Pneumology - July 5, 2013, over 112 members)
 - Practical Romanian Guidelines for Lung Cancer Management (Diagnosis and Treatment) - 2013, 2015
 - First and Second National Conference of Lung Cancer - 2013, 2015
 - E-learning programs for diagnostic and interventional bronchoscopy - top equipment 2013
 - “Control for Hope” awareness campaign regarding lung cancer risk (2012- 2013).

These activities are sustained by sponsorship from pharmaceutical companies.

The priorities for CRD prevention are COPD, lung cancer and smoking’ diseases.

More funding is required for CRDs prevention which can be monitored by National surveys. Patients have received smoking cessation advice. There are no actions against indoor combustion of solid fuel.

GARD Syria. Activities conducted by GARD for CRDs prevention include: i) survey on the prevalence and risk factors for CRDs, ii) survey for CRDs in shelters, iii) guidelines (in process), iv) collaboration with patient organisation and v) being a member of the international COPD coalition. The activities are sustained by official courier between institutions. Early diagnosis of asthma and tobacco control are the priorities for CRD prevention. Requirements for CRD prevention might be to cover shelters and isolated dwellers as many Primary Care Centers have been destroyed by the conflict; the Red Crescent, Red Cross and WHO are helping. CRDs prevention is monitored by a

national program or guidelines. Patients received smoking cessation advice. There are not really actions against indoor combustion of solid fuel.

GARD Turkey. Activities conducted by GARD for CRD prevention have been listed above. GARD Turkey City councils in 81 cities have been performing regional activities by the local representatives of 64 partners in the city and in conformity with the national action plan. Also, World COPD and Asthma days' activities for patients, for some groups (like police, nurses, industrial employees, congressman in National Assembly) have been coordinated. These activities are sustained by Ministry of Health officers, physicians and TTS Members regarding the GARD Turkey Executive Committee decisions.

Priorities for CRD prevention are:

- Reducing smoking.
- Reducing environmental smoking.
- Reducing indoor air pollution.
- Reducing outdoor air pollution.
- Reducing occupational risk factors.
- Reducing allergen exposure.
- Prevention and management of childhood infections.
- Generalizing physical activities and healthy nutrition.

Requirements for CRD prevention are:

- Increasing awareness of early detection among public and health professionals.
- Supplying and expanding the usage of spirometry.
- Easy access to healthcare services.
- Eliminating the risk factors (smoking, infection, occupational).
- Easy access to medicine and treatment equipment.
- Proper recording and monitoring.
- Decreasing allergen burden.

CRD prevention is monitored by studies of GARD Working Group 1. Patients received smoking cessation advice. There are (partial) actions against indoor combustion of solid fuel.

NAEPP - Asthma (United States)

In the U.S., asthma affects people of all ages, but it most often starts during childhood. In the United States, more than 25 million people are known to have asthma. About 7 million of these people are children. At an estimated cost to the nation of \$56 billion.

The National Asthma Education and Prevention Program (NAEPP) was initiated in March 1989 to address the growing problem of asthma in the United States. The NAEPP is administered and coordinated by the National Heart, Lung, and Blood Institute (NHLBI). The NAEPP works with intermediaries including major medical associations, voluntary health organizations, and community programs to educate patients, health professionals, and the public. The ultimate goal of the NAEPP is to enhance the quality of life for patients with asthma and decrease asthma-related morbidity and mortality.

The goals of the NAEPP are to:

- Raise awareness of patients, health professionals, and the public that asthma is a serious chronic disease.
- Ensure the recognition of the symptoms of asthma by patients, families, and the public and the appropriate diagnosis by health professionals.
- Ensure effective control of asthma by encouraging a partnership among patients, physicians, and other health professionals through modern treatment and education programs.

To accomplish these broad program goals, the NAEPP works with intermediaries including major medical associations, voluntary health organizations, and community programs to educate patients, health professionals, and the public.

The National Asthma Control Initiative (NACI) is helping to improve asthma care and control by encouraging and empowering clinicians, patients, and others to follow science-based asthma care and control guidelines, including six key actions that all clinicians, patients, families, caregivers and anyone whose life touches someone with asthma can take to help change a life.

In 2008, the National Asthma Education and Prevention Program (NAEPP), coordinated by the National Heart, Lung, and Blood Institute (NHLBI), created the NACI. By working with Strategic Partners, Demonstration Projects, and Clinical Champions, the NACI has shown how to put asthma guidelines into action at home, school, work, health care settings, and the community.

The NAEPP Objectives (key priorities):

1- For Patients and the Public:

- Increase public awareness of asthma as a significant public health problem.
- Increase public awareness of the signs and symptoms of asthma
- Improve the knowledge, attitudes, and skills of patients regarding the detection, treatment, and control of asthma, particularly in high-risk populations.
- Define guidelines for effective asthma education programs.
- Promote development, dissemination, and use of patient and family education materials.

2- For Health Professionals:

- Increase knowledge, attitudes, and skills of all health professionals regarding signs, symptoms, and management strategies for asthma.
- Encourage health professionals treating patients with asthma to adequately track and monitor patient status and to use objective measures of lung function.
- Assist and encourage health professional schools and continuing education programs to include up-to-date and accurate information on diagnosis, pathogenesis, and treatment of patients with asthma.
- Promote and encourage the concept of active patient participation with the physician in the management of asthma.
- Develop resources and materials for use by health professionals.
- Promote research to answer unresolved questions about underlying causes of asthma and appropriate asthma treatment and management practices.
- For more information visit: http://www.nhlbi.nih.gov/about/org/naepp/naep_pd

NAEPP - COPD:

Chronic Obstructive Pulmonary Disease (COPD) is the 3rd leading cause of death in the United States. More than 15 million in the U.S. have been diagnosed with COPD and it is estimated that another 15 million people have COPD without knowing it.

The “*COPD Learn More Breathe Better*”, initiative, a program of the National Institutes of Health, seeks to increase awareness of COPD as a serious lung disease; increase understanding that COPD is treatable; and encourage people at risk to get a simple breathing test and talk to their health care providers about treatment options. The initiative targets health care providers, patients of COPD and those at risk for COPD. (<http://www.nhlbi.nih.gov/health/educational/copd/>).

The campaign uses several key strategies to communicate key public health messages to the estimated 24 million Americans living with COPD. These strategies include building partnerships, conducting media outreach, implementing community-level outreach and events, and using social media.

The campaign’s key action messages focus on helping the target population, men and women over age 45 -especially those who smoke or have smoked and those with risk associated with genetics or environmental exposures- to recognize the signs and symptoms of COPD and encouraging them to talk with their health care providers about being tested and treatment options. The campaign also educates health care providers about the rising incidence of COPD, which patients are at risk for the disease, early detection methods, and treatment options.

GARD Vietnam. Activities conducted by GARD for CRD prevention include: i) a Tobacco control national program and ii) Air pollution reduction. These activities are sustained by national funds. Tobacco cessation is a priority for CRD prevention which requires implementation of existing laws for tobacco control. CRD prevention is monitored regularly with meetings for review and planning. Patients received smoking cessation advice. Actions against indoor combustion of solid fuel include to reduce biomass smoke by new ovens.

4- ACTIVITIES FOR MANAGEMENT OF CRDs

Table 6: Domain 4: Activities for Management of CRDs

Are there national protocols for COPD and Asthma management?	10 definite yes 2 in line with guidelines
Are there national guidelines ?	10 yes 2 yes but not endorsed by MoH
Are these protocols /guidelines implemented? How?	9 yes 3 partly
Patient received a written action plan (yes/no)	8 yes 3 partly 1 no
Are CRDS managed in primary health care?	9 yes 4 partly
Are nurses involved in the delivery of care?	9 yes 1 partly 2 no
Are feldshers and other than medical doctors” or health care aid involved in the delivery of care?	5 yes 1 partly 5 no
Are protocols for COPD and Asthma in WHO PEN adapted?	9 no 2 yes 1 partly
Are medicines for COPD and Asthma available in primary health care?	9 yes 3 no
Are there any data for drug availability/affordability?	10 yes 1 no
What are the needs for improving COPD and Asthma management in primary care?	<ul style="list-style-type: none"> • Involvement of patients, • PHC • Implementation of a national program & guidelines • Continuous education • resource management • WHO/GARD support • WHO/PEN • referral system • capacity building • to have the priority among NCDs • national registry
What are the programmes for capacity building for health workers and professionals in CRD management?	<ul style="list-style-type: none"> • National societies • National GP organisations • Education at health institutions

Most of the countries have national protocols for Asthma and COPD. Most of them have implemented national guidelines and written action plans.

PHC, nurses and shelders involved in most of them and WHO/PEN are not widely adopted.

GARD Brazil. There are national protocols for COPD and Asthma management by the MoH and guidelines published by the Brazilian Society of Pulmonology. National guidelines are published by the Brazilian Society of Pulmonology, but not necessarily endorsed by the MoH (Guidelines for Asthma Management Brazilian Journal of Pulmonology, 2012, text in Portuguese(www.jornaldepneumologia.com.br/guidelines)). However, these protocols/guidelines are not implemented. Not all times, patients receive a written action plan, this could be given in an informal way. CRDs are managed in primary health care, but in a limited number of primary and secondary health care facilities. Nurses are involved in the delivery of care but in an informal way. No feldshers and other than medical doctors or health care aid are involved in the delivery of care. There are no protocols for COPD and Asthma adapted in WHO PEN. Through the “Popular Pharmacy Program”, managed by the MoH, there are medicines for COPD and Asthma available in primary health care. Regarding data for drug availability/affordability, there are data on inhaled steroids and SABA, available from the MoH; data on medicines for COPD are available at Municipal and State/Province. There are still needs for improving COPD and Asthma management in primary care in the national management programme. At present, there are no programmes for capacity building for health workers and professionals in CRD management.

GARD Finland. There are national protocols for COPD and Asthma management. There are national guidelines which are implemented in the National Programmes. Patients received a written action plan. CRDs are managed in primary health care. Nurses are involved in the delivery of care. There are no feldshers and other than medical doctors or health care aid involved in the delivery of care, except by the support from pharmacists. Protocols for COPD and Asthma in WHO PEN are partly adapted. Medicines for COPD and Asthma are available in primary health care. There are data for drug availability/affordability. The needs for improving COPD and Asthma management in primary care includes continuous education, financial resources and good PHC oriented National Programs. The programmes for capacity building for health workers and professionals in CRD management are focused on “Education” at health institutions, PHC, Filha and other commercial educational programmes.

GARD Georgia. There are national protocols and guidelines for COPD and Asthma management. (http://www.moh.gov.ge/index.php?lang_id=GEO&sec_id=68; listed in Georgian only).

Titles of guidelines/protocols in English are:

- Management of Allergic Rhinitis in PHC facilities
- Management of Bronchial asthma in general medicine practice
- Early Diagnosis and management of COPD in general medicine practice
- Management of exacerbations of COPD on ambulatory and hospital levels
- Management of exacerbations of Bronchial Asthma on ambulatory and hospital levels
- Management of obstructive Sleep Apnoea on primary healthcare level
- Chronic Cough
- Protocol of Spirometric examination
- Smoking Cessation and prevention

These protocols or guidelines are implemented; however, it is not well regulated, since most of the clinics are private, hence in some of the facilities the management are more strict in monitoring and, in others, it is up to doctors to follow the protocols or

guidelines. Patients do not receive a written action plan. CRDs are partially managed in primary health care. Nurses are not involved in the delivery of care, but it is planned to get them more involved. Feldshers and other than medical doctors or health care aid are not involved in the delivery of care. Protocols for COPD and Asthma are not adapted in WHO PEN. No medicines for COPD and Asthma are available in primary health care. There are no data for drug availability/affordability. Needs for improving COPD and Asthma management in primary care include capacity building of PHC professionals, equipment and drugs. There are no programmes for capacity building for health workers and professionals in CRD management; however, there are regional conferences organized by Georgian Respiratory Association and the journal also published by GRA.

GARD Japan. National protocols for COPD and Asthma management include: i) JAS Asthma prevention and control guideline and ii) JRS COPD treatment guideline. These protocols are implemented nationally. Patients receive a written action plan. CRDs are managed in primary health care. Nurses are partially involved in the delivery of care. There is a partial involvement of feldshers and other than medical doctors or health care aid in the delivery of care. Protocols for COPD and Asthma are adapted in WHO PEN. Medicines for COPD and Asthma are available in primary health care. There are data for drug availability/affordability. Implementation of the guidelines is a need for improving COPD and Asthma management in primary care.

GARD Kyrgyzstan. There is a National Protocol for COPD and Asthma (2015) and National Guidelines, their implementation is a priority. Patients received a written action plan. CRDs are managed in primary health care. Nurses are involved in the delivery of care and we have planned to give more attention for this important issue. There are feldshers and other than medical doctors or health care aid involved in the delivery of care. Protocols for COPD and Asthma will be adapted in the WHO PEN. A Central Asia WHO PEN session was held in 9 October 2015 in Bishkek. Medicines for COPD and Asthma are not always -and not everywhere- available in primary health care. The needs for improving COPD and Asthma management in primary care include:

- Raising awareness of the population,
- Development of national protocols for COPD and asthma,
- Education and Training of doctors and nurses,
- Improving the availability of equipment for early diagnosis, and
- Improving the availability of essential drugs.

GARD Netherlands. National protocols for COPD and Asthma management include; i) inhalation protocols in order to optimize the use of inhalation medication, ii) Standards for integrated care (asthma and COPD), iii) an integrated pathway for AECOPD is in developing and will be tested in January 2016.

National guidelines include: Guideline for palliative care of COPD, Multidisciplinary guideline asthma and Guideline diagnosis and treatment COPD (in cooperation with the NVALT). Inhalation protocols are implemented nation-wide in several information systems of pharmacists and general practitioners.

In few (minority) cases, patients received a written action plan. CRDs are managed in primary health care. Nurses, pharmacists and physiotherapists are involved in the delivery of care. There are no protocols for COPD and Asthma adapted in WHO PEN. Primary care guidelines are in place since 2003. Medicines for COPD and Asthma are

widely available for the whole population in primary health care. Data for drug availability/affordability are possible through healthcare insurance providers. The needs for improving COPD and Asthma management in primary care include the involvement of patients to improve self management and adherence. The national GP organisation CAHAG organises large-scale training programmes in which 6,000 GPs have already participated, this supports the capacity of building up for health workers and professionals in CRD management.

GARD Pakistan. National protocols for COPD and Asthma management are in progress. There are national guidelines which are formulated by the Pakistan Chest Society. Protocols and guidelines are implemented by educating physicians. Patients received a written action plan in very few settings. CRDs are managed in primary health care. Nurses are involved in the delivery of care but not independently. Alternate medical practitioners have an informal role in the delivery of care. Protocols for COPD and Asthma have been adapted and adopted in WHO PEN. Medicines for COPD and Asthma are available in primary health care. There is very little data for drug availability/affordability. Low cost medication, motivation and health education are needs for improving COPD and Asthma management in primary care. There are training programmes, both formal and informal, for capacity building for health workers and professionals in CRD management.

GARD Portugal. There are national protocols for COPD and Asthma management under the responsibility of the MoH. Different guidelines have been prepared. These protocols and guidelines are implemented through the NHS (PHC Centres and at Hospital levels) and in the Private Health Care System. Patients receive a written action plan. CRDs are managed in primary health care with the guidelines documents. The implementation of the National Spirometry network in PHC is a priority. Nurses are involved in the delivery of care as well as other health professionals. Protocols for COPD and Asthma are not adapted in WHO PEN. Medicines for COPD and Asthma are available as well as all the drugs and spacers (spacers are reimbursed, according to new legislation). There are data for drug availability/affordability. Improving COPD and Asthma management in primary care are in the first level of priorities as the pregnant/new born and children protection and prevention. Cardiovascular diseases and Diabetes have specific National programmes. There are not specific programmes in progress for capacity building for health workers and professionals in CRD management.

GARD Romania. National protocols for COPD and Asthma management should be identical to guidelines. National guidelines in Romania are GLOBO Asthma National Guidelines and Practical Guidelines for Lung Cancer Management. These protocols or guidelines are implemented by pneumology specialists and family physicians. Patients received a written action plan. CRDs are managed in primary health care at the pneumology physician level. Nurses are involved in the delivery of care. No feldshers and other than medical doctors or health care aid are involved in the delivery of care. Protocols for COPD and Asthma are not adapted in WHO PEN. Medicines for COPD and Asthma are not available in primary health care. There is data for drug availability/affordability. Needs for improving COPD and Asthma management in primary care include a national registry and a national program of management. Programmes for capacity building for health workers and professionals in CRD management include conferences, symposia and workshops in bronchoscopy.

GARD Syria. There are national protocols for COPD and Asthma management, but not really followed in all settings. There are national guidelines but, non approved after the GARD survey. However, the GINA and GOLD guidelines are implemented in teaching hospitals; PEN and PAL but now not activated. Patients some times received a written action plan. CRDs are managed in primary health care, but not exclusively. Nurses are not involved in the delivery of care, but they are trying to do so. There are no feldshers and other than medical doctors or health care aid involved in the delivery of care; may be medication delivery from agents of WHO and Red Crescent or Red Cross. A protocol for COPD and Asthma was adapted in WHO PEN in 2010, but now stopped. We are trying in GARD country to make it part of our guidelines. Medicines for COPD and Asthma are available in primary health care and in all hospitals for free. There are data for drug availability/affordability, but this is not updated. Regarding the needs for improving COPD and Asthma management in primary care, we consider that this could be done if GARD-WHO-Geneva write to WHO-Country Office and Health Ministry supporting the action of country coordinator. A curriculum for primary care for nurses, doctors, pharmacists and patient education is needed. Programmes for capacity building for health workers and professionals in CRD management should include “training”.

NAEPP - Asthma (United States). The first NAEPP Expert Panel Report was published in 1991, with subsequent updates in 1997, 2002 (on selected topics only), and 2007. **The Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma (2007)** was developed by an expert panel commissioned by the National Asthma Education and Prevention Program (NAEPP) Coordinating Committee (CC), coordinated by the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health.

The NAEPP Expert Panel Report is released as a full report with evidence tables, an executive summary and quick reference guide. NAEPP committees work together, or NAEPP member organizations on their own, prepare “satellite” products extracting the messages from the guidelines most relevant to their audience (e.g., a guide for nurses, respiratory therapists).

NAEPP’s goal is to mobilize and stimulate partnerships and support collaborative efforts in the use of evidence-based clinical practice recommendations and thereby improve public health programs and services for people with asthma. This requires identifying more effective and efficient ways to translate evidence-based knowledge into practice, and manage the implementation of effective practices. Scientific advances have greatly improved the capability to manage and control asthma effectively, but evidence about how to best apply effective strategies in clinical practice settings, including primary care, is limited.

NAEPP - COPD. Regarding the needs for improving COPD management in primary care, it is evident that knowledge gaps among primary care physicians (PCPs) exist when dealing with patients with COPD symptoms and those at risk. PCPs acknowledge the severity of COPD, but this is often not a main concern compared with other morbidities. PCPs need more information about testing and diagnosing (including tools to assist with screening patients to help inform when to test) and treatment, especially clinical guidelines and smoking cessation.

GARD Turkey. National protocols and guidelines for COPD and Asthma management are TTS National COPD and Asthma Guidelines (in Turkish). These protocols /guidelines are implemented by the MoH and TTS. Patients received a written action plan. CRDs are managed in primary health care. Nurses are partially involved in the delivery of care. There are no feldshers and other than medical doctors or health care aid involved in the delivery of care. Protocols for COPD and Asthma are not adapted in WHO PEN. Medicines for COPD and Asthma are available in primary health care. There are data for drug availability/affordability:

- Million boxes drug consumption: year:
 - 198,1:2007
 - 209,1:2008
 - 237,4:2009
 - 231,3:2010
 - 268,7:2011
 - 257,8:2012
 - 263,8:2013

Programmes for capacity building for health workers and professionals in CRD management include: web and hard copy educational materials, face to face educations modules, World Day activities.

GARD Vietnam. There are national protocols and guidelines for COPD and Asthma management which are implemented by the national program of the Respiratory Societies and GARD members. Patients do not receive a written action plan. Management of CRS in primary health care is on the way of development with family doctors. Nurses are involved in the delivery of care. There are feldshers and other than medical doctors or health care aid involved in the delivery of care. Protocols for COPD and Asthma are not adapted in WHO PEN. There was a study on the feasibility of WHO PEN, it was successful but has not been implemented. WHO Vietnam has to interact more with WHO HQ. Medicines for COPD and Asthma are not available in primary health care, but it can connect with district hospital to have them. Almost all asthma and COPD medications are available in Vietnam, but insurance companies distribute them depending on the grade of hospital (1st, 2nd, 3rd, special). Medications are in the insurance list of common health posts. The needs for improving COPD and Asthma management in primary care include: adaptation to WHO PEN, training for family doctors and nurses, and to establish the referral and back-referral system. Programmes for capacity building for health workers and professionals in CRD management are: i) Programmes on national COPD and Asthma, and ii) Workshop of Respiratory Societies, for GARD members based on national guidelines (similar to GOLD, GINA).

5- SURVEILLANCE AND MONITORING OF CRDs

Table 7: Domain 5: Surveillance and monitoring of CRDs

Has there been any national survey on CRDS? If yes, year and details.	11 yes 1 no
Are CRDs included as part of any national health or environment survey? If yes, year and details.	6 yes 6 no
Is there information on deaths from CRDs in the national statistics? If yes provide details.	11 yes 1 no
Are there any indicators in the health services for monitoring CRD management?	8 yes 4 no
What is needed to improve data on CRDs?	<ul style="list-style-type: none"> • A national program • audit • registry • surveys • education, • capacity building
Are there any data for hospital /ER admission rates?	11 yes 1 not finished
Are there any data for mortality rates?	12 yes

Most of the countries have national surveys on CRDs. Data for hospital admission, mortality rates available. Spirometry is used rarely.

GARD Brazil. A national survey on CRDs for hospitalization rate has been conducted. (Guidelines for Asthma Management Brazilian Journal of Pulmonology, 2012, text in Portuguese(www.jornaldepneumologia.com.br/guidelines)). CRDs are not included as part of any national health or environment survey. However, there is information on deaths from CRDs in the national statistics. There are no indicators in the health services for monitoring CRDs. Indicators in the health services for monitoring CRDs should be in the National Management Programme. There is data for hospital /ER admission rates and mortality rates. The diagnosis of asthma and COPD is rarely confirmed by spirometry.

GARD Finland. There been continuous collection of data on national survey on CRDs. CRDs are included as part of any national health or environment survey. There is information on deaths from CRDs in the national statistics which is provided by the National Institute for Health and Welfare. There are indicators in the health services for monitoring CRDs management. The data on CRDs works fairly well, but more information to Health Care Workers could improve this data. There is data for hospital /ER admission and mortality rates. Generally, the diagnosis of asthma and COPD is confirmed by spirometry.

GARD Georgia. With WHO's assistance, GRA conducted pilot projects on surveillance on CRDs at primary health care level in two family medicine centers in

Mtskheta and

Sagarejo (<http://isaac.auckland.ac.nz/story/centres/centres.php?cen=40001>). Lack of surveys and official statistics do not depict the real picture and we look for finances. ISAAC phase 1 and 2 were conducted in 2001-2002. There are no CRDs included as part of any national health or environment survey. There is information on deaths from CRDs in the national statistics, but not reliable. Information on CRDs is provided in the annual statistical yearbook (http://ncdc.ge/AttachedFiles/2013_eng_2b165575-911e-4596-b6b0-f1e0f1540c6c.pdf), but since data collection is not reliable, the statistics do not depict reality and, we use WHO estimates. There is unreliable structure of data collection, and many doctors do not know how to diagnose COPD, and often, the reports deaths caused by CRDs can be depicted as by “unknown cause” thus there is under representation of CRDs morbidity/mortality. There are no any indicators in the health services for monitoring CRD management. More surveys, professional training, capacity building and CRDs register are needed to improve data on CRDs. There are data for hospital /ER admission rates. Although there are data for mortality rates, these are not reliable. Morbidity/mortality 20-30% of the deaths caused by “unknown cause” can be attributed to CRDs. Diagnosis of asthma and COPD is confirmed by spirometry when spirometers are available.

GARD Japan. National surveys on CRDs have been conducted by JAS and JRS. National information on deaths from CRDs is reported by the MOHLW, Japan. Indicators in the health services for monitoring CRD management include: number of outpatients, inpatients and medical bills (MOHLW, Japan). There are data for hospital /ER admission rates and mortality rates which are recorded by the MOHLW, Japan. The diagnosis of COPD is confirmed by spirometry.

GARD Kyrgyzstan. A pilot GARD study (2009-2010) and a National survey for CRD (from BOLD and Fresh Air study 2012-2014) were conducted. Results will be presented soon, as analysis is now performed. CRDs are not included as part of any national health or environment survey. There is information on deaths from CRDs in the national statistics. There are indicators in the health services for monitoring CRD management. Improving data on CRDs, will improve and enhance the quality of care and management at the primary care level. There is data for hospital/ER admission rates, but no data for mortality rates. The diagnosis of asthma and COPD is confirmed by spirometry only in five medical centers.

GARD Netherlands. There is no specific national survey on CRDs, but the national bureau of statistics (CBS) monitors COPD and asthma annually. Smoking rates are reported in the national smoking monitor 2014. There is information about the numbers on deaths from CRD's, unfortunately without details about the circumstances. Mortality reported in 2011 was: 69 cases due to Asthma and 6,383 cases due to COPD. In primary care there are several process and outcome indicators for monitoring CRD management. To improve data on CRDs is necessary to integrate it with other data, for example hospital data. There are data for hospital /ER admission rates at the Ducht Hospital Data Base. The national bureau of statistics (CBS) keeps data on mortality rates. The diagnosis of asthma and COPD is confirmed by spirometry as recommended by national primary care guidelines since 2007.

GARD Pakistan. The ISAAC Study 1997 and 2002 has been the national survey on CRDs. The inclusion of CRDs as part of any national health or environment survey

needs to be confirmed. There is no information on deaths from CRDs in the national statistics. Indicators in the health services for monitoring CRD management need to be confirmed. To improve data on CRDs, organised planning, logistical, professional and financial support are needed. There are no data for hospital/ER admission or mortality rates. The diagnosis of COPD and asthma is confirmed by spirometry, but not always.

GARD Portugal. There is no national survey on CRDs. CRDs are not included as part of any national health or environment survey. There is information on deaths from CRDs in the national statistics, which are published every year in the annual report of the PNPRD and of the Portugal National Statistics Institute. There are indicators in the health services for monitoring CRD management. To improve data on CRDs it is important to continue the National Health Strategy. There are data for hospital/ER admission and mortality rates. The diagnosis of asthma and COPD is confirmed by spirometry at the Hospital level but it was not possible until now to improve a spirometry network at the PHC national level.

GARD Romania. National surveys on CRDs are National Survey for COPD (2012) and GATS (2012). CRDs are not included as part of any national health or environment survey. There is information on deaths from CRDs in the national statistics at the National Institute of Statistics. There are not any indicators in the health services for monitoring CRD management. To improve data on CRDs, budget allocated by the National Health Insurance and Health Ministry for national programs is needed. There are data for hospital/ER admission rates and also, there are the COPD audit data. There are data for mortality rates but only in national statistic reports (undervalued). The diagnosis of asthma and COPD is confirmed by spirometry.

GARD Syria. The GARD survey in 2010 has been the national survey on CRDs. Indicators in the health services for monitoring CRD management include the international system in some hospitals. To improve data on CRDs audits and registers are necessary. There are data for hospital/ER admission and mortality rates. Diagnosis of asthma and COPD is confirmed by spirometry.

GARD Turkey. A national survey on CRDs (<http://gard.org.tr/publications.html>) has been conducted. In order to prevent and control non-communicable diseases (NCDs), the 61st WHA has endorsed an NCD action plan. This plan is intended to support coordinated, comprehensive and integrated implementation of strategies and evidence-based interventions across individual diseases and risk factors, especially at the national and regional levels. There are six objectives and actions proposed. A package for essential NCDs, including chronic respiratory diseases (CRDs), has been developed. In order to follow these recommendations, the Turkish MoH has decided to apply this national control program in conformity with other NCD action plans of which some of them have been finalized such as cardiovascular diseases, obesity and tobacco. All these programs are trying to be integrated with each other in terms of planning and application.

There is information on deaths from CRDs in the national statistics. There are indicators in the health services for monitoring CRD management. There are data for hospital /ER admission rates (but not yet finished). There are data for mortality rates: in 2011 the mortality rate of COPD was 5.9%, 2014 the mortality rate was 6.4%, representing the 3th or 4th cause of mortality respectively.

The diagnosis of asthma and COPD is confirmed by spirometry only in secondary and tertiary clinics.

NAEPP - Asthma (United States) Asthma surveillance data includes collection of asthma data at both the national and the state level. National data is available on asthma prevalence, activity limitation, days of work or school lost, rescue and control medication use, asthma self-management education, physician visits, emergency department visits, hospitalizations due to asthma, and deaths due to asthma from National Center for Health Statistics (NCHS) surveys and the Vital Statistics System. Asthma surveillance data at the state level include adult and child asthma prevalence from the Behavioral Risk Factor Surveillance System (BRFSS) and in-depth state and local asthma data through implementation of the BRFSS Asthma Call-back Survey (ACBS). <http://www.cdc.gov/asthma/asthmadata.htm>

NAEPP - COPD. In 2012, through an Interagency agreement between the National Institutes of Health and the Center for Disease Control and Prevention the Behavioral Risk Factor Surveillance System (BRFSS) survey was used to develop statistical models estimating chronic obstructive pulmonary disease (COPD) prevalence at different geographic levels including counties, congressional districts, and census tracts. These estimates could be used in a variety of contexts and meet the diverse small-area health data needs of local policy makers, program planners, and communities for public health program planning and evaluation.

GARD Vietnam. National surveys on CRDs have been conducted on asthma and COPD. CRDs are included as part of national health or environment surveys. There is information on deaths from CRDs in the national statistics. There are no indicators in the health services for monitoring CRDs management. To improve data on CRDs it is needed to have an extensive network to collect data from common health ports, district, provincial and special hospital, if they are organized by the MoH. There are data for hospital /ER admission and mortality rates, but not on a national scale. Diagnosis of asthma and COPD is confirmed by spirometry in the trained hospitals provinces and some districts.

6- COMMENTS AND SUGGESTIONS

Table 8: Domain 6: Comments and suggestions

<p>What can be done to improve CRD management in your country? What are the requirements?</p>	<ul style="list-style-type: none"> • CRD should be one of the priorities of MoH among NCD s (2020 horizon) • Implementing a National program • Survey • Focus on self management by patients • E-health tools • Continuous education for all • Resource management • WHO-PEN application
<p>What can be done to expand and strengthen GARD national chapter?</p>	<ul style="list-style-type: none"> • Continuous collaboration with patient organisations, MOH and HCP • Expanding GARD connections • Position and role of GARD chapter should be more clearly defined • Official recognition of GARD countries by WHO (as in Vietnam) • Funding

GARD Brazil. To improve CRD management we suggest to implement a Management Program at a National/Country level. To expand and strengthen the GARD national chapter we suggest to provide specific recommendations from WHO to the MoH to implement a National Management Programme.

GARD Finland. Continuous education and research will help to improve CRD management. To expand and strengthen the GARD national chapter, the position and role of GARD in the national chapter should be more clearly defined.

GARD Georgia. Survey, capacity building (human, resources) can improve CRD management in Georgia. To expand and strengthen the GARD national chapter is necessary funding.

GARD Kyrgyzstan. To improve CRDs management we suggest:

- Development of National Integrated prevention and control programs for CRDs and COPD based on the multi-sectoral approach and partnership.
- To increase priority for the primary health care level.
- Survey the prevalence of COPD and their risk factors at the primary health care level.
- Regulation and control of major COPD risk factors at the individual and population level.
- Improving the quality of care for CRDs and COPD with using available interventions on the principles of evidence-based medicine.

- Improving access to health care for all people regardless of geographical conditions of stay, transport accessibility and level of income.

GARD The Netherlands. To improve CRD management in The Netherlands, we suggest to increased focus on self management by patients and health tools to support this action. Continuous collaboration between patient organisations, MoH and healthcare providers will help to expand and strengthen GARD national chapter.

GARD Pakistan. A comprehensive national plan is required to be drawn up by all relevant stakeholders to improve CRD management in Pakistan. To expand and strengthen the GARD national chapter, a suggestion is the involvement of more organisations and stakeholders, both at a governmental and non-governmental level, covering all strata, throughout the country.

GARD Portugal. To improve CRD management in Portugal, it is necessary to implement CRDs to the first level of priorities as some other CDs like Cancer, Cardiovascular Diseases and Diabetes. This is a political challenge in the perspective of the 2020 horizon. It needs to be solved with GARD and WHO Geneve (Non Communicable Diseases Department) and with the involvement of WHO Europe regarding the MoH strategic activities. To expand and strengthen GARD in the national chapter it is important to continue the close collaboration between GARD coordination and National Programmes of Respiratory Diseases under the responsibility of the MoH. The Portuguese Directorate General of Health and the GARD National activities should continue to receive the official recognition by the MoH.

GARD Romania. To improve CRD management we would require: i) Updated smoke-free low in The National Register of COPD and Asthma and National Register of Lung Cancer , ii) 100% subsidized medication for asthma and COPD, and iii) Lung cancer early diagnosis primarily by bronchoscopy.

To expand and strengthen the GARD national chapter these are our considerations:

- Expanding GARD connections and importance requires referrals letters of support to government and health ministry leadership.
- Attending meetings with the health minister and the president of the National Health Insurance
- For Lung cancer early diagnosis :
 - A program to support the establishment of bronchoscopy labs in each county and each unit of pulmonology
 - A program to support the acquisition of new and more equipment in major bronchology centers – in the National Institute of Pneumology Marius Nasta is registering 10.000 bronhoscopies/year (without acquisition of equipment for 11 years).

GARD Syria. To improve CRD management in Syria and to expand and strengthen GARD national chapter, we suggest to have: i) a proper curriculum for primary care for nurses, doctors, pharmacists and patient education, which is now in procees, and ii) a training program for nurses and pharmacy, medical students as well and primary care doctors on inhalers and oxymetry and oxygene use.

GARD Turkey. To improve CRD management should be one of the priorities among NCDs. We are pleased to say that Turkey is currently a “good example” on how to expand and strengthen the GARD national chapter.

GARD Vietnam. To improve CRD management we suggest i) to apply WHO-PEN in common health ports, ii) to disseminate the Asthma-COPD out-patient Care Unit (ACOCU) in all provinces in Vietnam and then to district hospitals and , iii) to have a team to inspect the quality of established ACOCU.

Up to now, GARD Vietnam is not officially recognized by MoH and government, then, to expand and strengthen GARD we suggest that the WHO representative office in Vietnam should send a letter of recommendation and documents of GARD to MoH. The MoH should understand what are the obligations and the benefits when establishing GARD in Vietnam. WHO Vietnam also could suggest a Ministry of Health as focal point for GARD.

GARD DEMONSTRATION PROJECTS

AIRWAYS ICP in GARD

In association with GARD (GARD research demonstration project), an integrated care pathways (ICPs) for chronic respiratory diseases (AIRWAYS ICPs) have been proposed and developed in Europe

ICPs, also known as clinical pathways or care pathways, are structured multidisciplinary care plans which detail essential steps in the care of patients with a specific clinical problem.

AIRWAYS ICPs was initiated by Area 5 of the Action Plan B3 of the European Innovation Partnership on Active and Healthy Ageing Strategic Implementation Plan (10) . All stakeholders are involved including health and social care, patients, and policy makers.

The goals of AIRWAYS ICPs are to launch a collaboration to develop multi-sectorial care pathways for chronic respiratory diseases in European countries and regions and beyond as a GARD research demonstration project.

AIRWAYS-ICPs has strategic relevance to the European Union Health Strategy and will add value to existing public health knowledge by:

- proposing a common framework of care pathways for chronic respiratory diseases, which will facilitate comparability and trans-national initiatives;
- informing cost-effective policy development, strengthening in particular those on smoking and environmental exposure;
- aiding risk stratification in chronic disease patients, using a common strategy;
- having a significant impact on the health of citizens in the short term (reduction of morbidity, improvement of education in children and of work in adults) and in the long-term (healthy ageing);
- proposing a common simulation tool to assist physicians; and
- ultimately reducing the healthcare burden (emergency visits, avoidable hospitalisations, disability and costs) while improving quality of life.

In the longer term, the incidence of disease may be reduced by innovative prevention strategies.

The implementation strategy of AIRWAYS ICPs has been reviewed during the GARD meeting in Lisbon (2015) (11) and the results published (12) .

The scaling up strategy of AIRWAYS ICPs has been done in collaboration with the GARD research demonstration project and results for 2013-2015 have been reviewed since there are many .

References:

1. **Yorgancioglu A**, Cruz AA, Bousquet J, Khaltsev N, Mendis S, Chuchalin A, Bateman ED, Camargos P, Chavannes NH, Bai C, Deleanu D, Kolek V, Kuna P, Laurendi G, Masjedi MR, Mele S, Mihaltan F, Pinto JR, Samolinski B, Scalera G, Sooronbaev T, Tageldin MA, Tuyetlan le T, Yusuf O, Akdis C, Baigenzhin A, Cagnani CB, Fletcher M, Gemicioğlu B, Muhammed Y, Sagra H, To T, Wagner AH. The Global Alliance against Respiratory Diseases (GARD) Country Report. *Prim Care Respir J*. 2014 Mar;23(1):98-101. doi: 10.4104/pcrj.2014.00014.
2. Action Plan of the Global Alliance Against Chronic Respiratory Diseases, 2008-2013, © World Health Organization 2008, ISBN 978 92 4 159720 3.
3. World Health Organization World Health Report 2004; Changing History. Geneva: World Health Organization, 2004.
4. GARD Book Global Surveillance, Prevention and Control of Chronic Respiratory Diseases: A Comprehensive Approach. ISBN 978 92 4 156346 8 (NLM Classification: WF140) © World Health Organization 2007
5. Laurendi G, Mele S, Centanni S, *et al.* Global alliance against chronic respiratory diseases in Italy (GARD-Italy): strategy and activities. *Respir Med*. 2012;106(1):1-8. <http://dx.doi.org/10.1016/j.rmed.2011.10.0022>. Epub 2011 Oct 22
6. Yorgancioglu A, Türktas H, Kalayci O *et al.* The WHO global alliance against chronic respiratory diseases in Turkey (GARD Turkey). *Tuberk Toraks* 2009;57(4):439-52.
7. Vigilância global ,prevenção e controlo das doenças respiratórias crónicas uma abordagem integradora” Editores Jean Bousquet, Nikolai Khaltsev. Direcção Geral da Saúde, Ministério da Saúde de Portugal, 2008 -ISBN 978-972-675- 183-0 and ISBN 978 92 4 156346 8(WHO 2007)
8. Camargos PA, Cruz AA, Bousquet J. Medications to the North, patients to the South. *J Bras Pneumol* 2009;35(7):615 <http://dx.doi.org/10.1590/S1806-37132009000700001> 9.
9. Yorgancioglu A, Yardim N, Ergün P *et al.* Integration of GARD Turkey national program with other non-communicable diseases plans in Turkey. *Tuberk Toraks* 2010;58(2):213-28
10. Bousquet J, Addis A, Adcock I, Agache I, Agustí A, Alonso A, *et al.* Integrated care pathways for airway diseases (AIRWAYS-ICPs). *Eur Respir J*. 2014; 44: 304-23.
11. Bousquet J, Rosado Pinto J, Barbara C, Correia da Sousa J, Fonseca J, Pereira

Miguel J, et al. Portugal at the cross road of international chronic respiratory programmes. *Rev Port Pneumol* (2006). 2015;21(5):230-2.

12. Bousquet J, Barbara C, Bateman E, Bel E, Bewick M, Chavannes N, et al. AIRWAYS ICPs (European Innovation Partnership on Active and Healthy Ageing) from concept to implementation. *Eur Respir J*. 2016; 47(4): 1028-33.